



Safety & Operation Manual

Jacobsen Turfcut™ 500 Series

**Kubota D-905EB
Diesel Engine**

T523D 2WD Model 66146

**Kubota D-1105E
Diesel Engine**

T528D 2WD Model 66148

T528D 4WD Model 66149

**Kubota D-1105T
Diesel Engine**

T535D 4WD Model 66150

**Briggs & Stratton 580447
Gasoline Engine**

T531G 2WD Model 66151

BOB-CAT • BUNTON • CUSHMAN • JACOBSEN • RANSOMES • RYAN



WARNING: *If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.*

TEXTRON

TURF CARE AND SPECIALTY PRODUCTS

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Proposition 65 Warning

Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm

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1.1 OPERATING SAFETY



WARNING

EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.

Familiarize yourself with the location and proper use of all controls. Inexperienced operator's should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Parts & Maintenance manual, engine manual, accessories and attachments). If the operator can not read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions; or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears hands and feet. Operate the machine only in daylight or in good artificial light.
6. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.) Enter a new area cautiously. Stay alert for hidden hazards.
7. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator can prevent and is responsible for injuries inflicted to themselves, to bystanders and damage to property.
8. Never operate equipment that is not in perfect working order or is without decals, guards, shields, discharge deflectors or other protective devices securely fastened in place.
9. Never disconnect or bypass any switch.
10. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation.
11. Fuel is highly flammable, handle with care.
12. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
13. Disengage all drives and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat, never while standing beside the unit.
14. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads.
15. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
16. Operate the machine up and down the face of the slopes (vertically), not across the face (horizontally).
17. To prevent tipping or loss of control, do not start or stop suddenly; reduce speed when making sharp turns. Use caution when changing direction on slopes.
18. Always use the seat belt when operating tractors equipped with a ROPS.
Never use a seat belt when operating tractors without a ROPS.
19. Keep legs, arms and body inside the seating compartment while the vehicle is in motion.

This machine is to be operated and maintained as specified in this manual and is intended for the professional maintenance of specialized turf grasses. It is not intended for use on rough terrain or long grasses.

1 SAFETY

1.2 IMPORTANT SAFETY NOTES



This safety alert symbol is used to alert you to potential hazards.

DANGER - Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

For pictorial clarity, some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place



WARNING



The operator back-up system on this tractor prevents the tractor from starting unless the brake pedal is engaged, mower switch is off and traction pedal is in neutral. The system will stop the engine if the operator leaves the seat without engaging the parking brake and setting the mower switch off.

NEVER operate tractor unless the operator back-up system is working.



WARNING



1. Before leaving the operator's position for any reason:
 - a. Return traction pedal to neutral.
 - b. Disengage all drives.
 - c. Lower all implements to the ground.
 - d. Engage parking brake.
 - e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers, unless a seat is provided for them.
5. Never operate mowing equipment without the discharge deflector securely fastened in place.

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact your Authorized Textron Turf Care And Specialty Products Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service. **Use of other than original or authorized Textron Turf Care And Specialty Products parts and Accessories will void the warranty.**

**Familiarize yourself with the decals they are critical to the safe operation of the machine.
REPLACE DAMAGED DECALS IMMEDIATELY.**

CAUTION

Read operators manual before operating machine.

- Keep shields in place and hardware securely fastened.
- Before you clean, adjust or repair this equipment, disengage all drives, engage parking brake and stop engine.
- Keep hands, feet and clothing away from moving parts.
- Never carry passengers.
- Keep bystanders away
- Do not use on slopes greater than 16°

Model	Engine Power	Vehicle mass with deck
T535D	35hp (26.1 kW)	2000 lbs. (907 kg)
T528D	28hp (20.9 kW)	2000 lbs. (907 kg)
T523D	23hp (17.1 kW)	2000 lbs. (907 kg)
T531G	31hp (23.1 kW)	2000 lbs. (907 kg)

3008001

OPERATING INSTRUCTIONS

READ MANUAL THOROUGHLY FOR OPERATING AND SAFETY INSTRUCTIONS.
REPLACEMENT MANUAL AVAILABLE FROM: JACOBSEN/TEXTRON, RACINE WI.

TO START	TO DRIVE	TO USE IMPLEMENT	TO STOP
1. Set Parking Brake. 2. Set Speed Control treadle in neutral. 3. Place pto switch in off position. 4. Set throttle at half position 5. For cold starting, hold glow switch for max. five seconds, release switch. 6. Turn ignition switch to start position.	1. Release parking brake. 2. Set throttle to fast position. 3. Depress treadle pedal for desired ground speed.	1. Lower implement to ground 2. Place pto switch in on position. 3. Depress treadle pedal for desired ground speed	1. Set treadle pedal in neutral position. 2. Place pto switch in off position. 3. Set parking brake. 4. Set throttle to slow position. 5. Turn ignition to off position and remove key.

3008003

PRECAUCION

1. No opere esta maquina sin previo entrenamiento, instruccion y sin haber leído el manual de operacion.
2. Tenga todas las guardas en su lugar y piezas bien aseguradas.
3. Neutralice todas las velocidades y apague el motor antes de vaciar los recolectores de pasto, darle servicio, limpiar, ajustar y destrabar la maquina.
4. Mantenga las manos, los pies y ropa suelta lejos de piezas en movimiento.
5. No deberan transportar pasajeros si no existe un asiento para ellos.
6. Si no sabe leer ingles, pida que alguien le lea las calcomanias de avisos y los manuales de instruccion y operacion.

DANGER

To avoid injury when working with battery

1. Always connect the black ground (–) cable last and remove it first.
2. Keep sparks and flames away, and avoid contact with acid.

To avoid injury when jumping battery

1. Connect positive (+) terminal to positive (+) terminal.
2. Connect negative (–) terminal on good battery to frame of vehicle that has dead battery.

3001435
















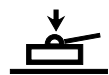












WARNING

Radiator is under pressure. Remove cap slowly to avoid personal injury

365956

3 CONTROLS

3.1 ICONS

<div>Read Manual</div> <div></div>	<div>Engine Throttle</div> <div>High Low</div> <div></div>	<div>Brake</div> <div>Engaged Disengaged</div> <div></div>	<div>Hydraulic Fluid Level</div> <div></div>
<div>Hour Meter</div> <div></div>	<div>Fuel</div> <div>Gasoline Diesel</div> <div></div>	<div>Mow Switch</div> <div>Off On</div> <div></div>	<div>Differential</div> <div></div>
<div>Lights</div> <div></div>	<div>Decks</div> <div>Lower Float Raise</div> <div></div>		<div>Drive</div> <div>2WD 4 WD</div> <div></div>
<div>Coolant Temperature</div> <div></div>	<div>Engine</div> <div>Choke Glow Plug Off Run Start</div> <div></div>		<div>Travel</div> <div>Forward Reverse</div> <div></div>

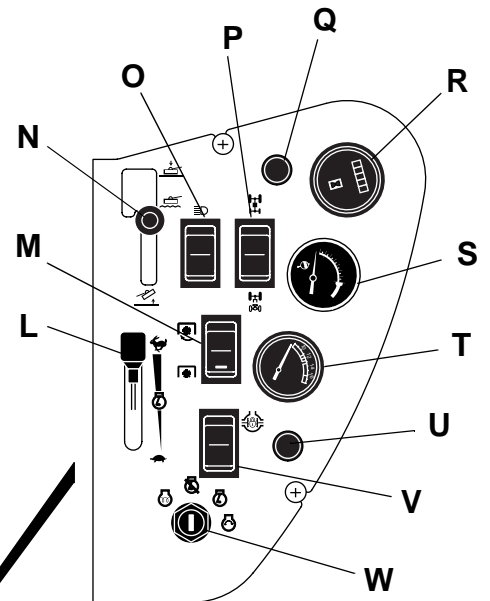
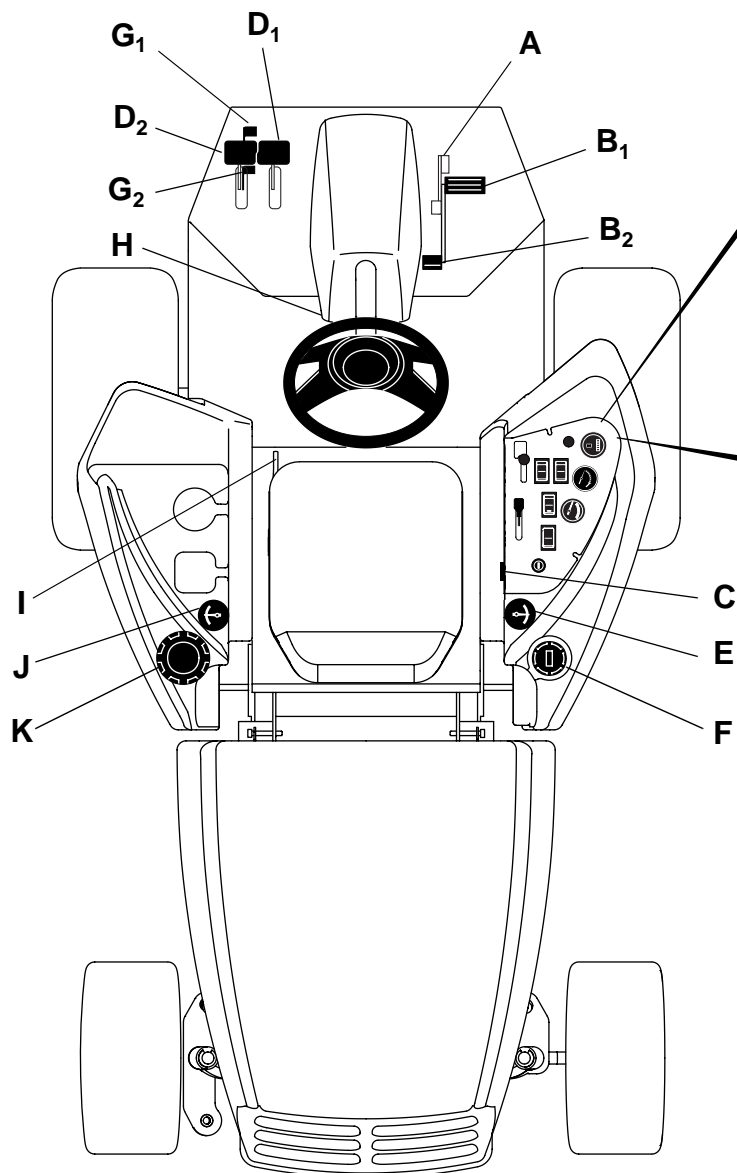
WARNING

Never attempt to drive the equipment unless you have read the Safety and Operation Manual and know how to operate all controls correctly.

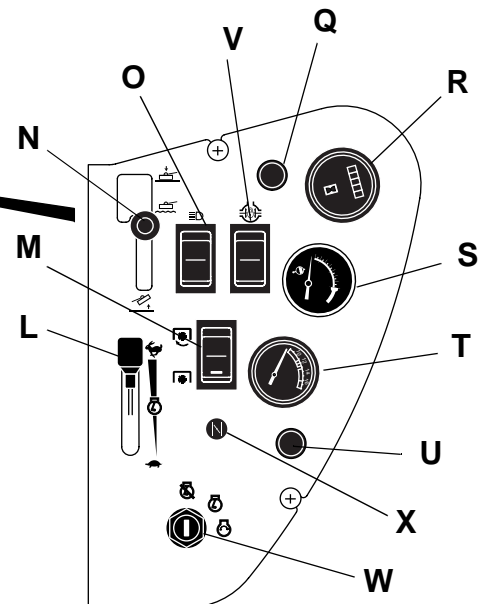
Familiarize yourself with the icons shown above and what they represent. Learn the location and purpose of all the controls and gauges before operating this equipment.

Figure 3A

- | | |
|------------------------------------|---------------------------------------|
| A1 Speed Limiter | L Engine Throttle |
| B1 Traction Pedal - Forward | M Power Take-Off (PTO) |
| B2 Traction Pedal - Reverse | N Lift Lever |
| C Alarm | O Light Switch (optional) |
| D1 Turn Assist - Right | P 4 wheel Drive (optional) |
| D2 Turn Assist - Left | Q Engine Oil Light |
| E Hydraulic Fluid Gauge | R Hourmeter |
| F Hydraulic Fluid Fill | S Temperature Gauge |
| G1 Parking Brake Lock | T Voltmeter |
| G2 Parking Brake Release | U Parking Brake Light |
| H Tilt Steering Lever | V Differential Lock (Optional) |
| I Seat Adjustment | W Ignition Switch |
| J Fuel Gauge | X Choke (Gas engine) |
| K Fuel Cap | |



Control Panel Arrangement
(Diesel Powered Tractors)



Control Panel Arrangement
(Gasoline Powered Tractors)

3 CONTROLS

3.2 CONTROLS

A. **Speed Limiter**

Limits forward speed while cutting or operating attachments. To operate at lower travel speed rotate lever as shown (**A₁**) so it contacts stop screw on floor board when forward travel pedal is pressed. To travel at full speed, set lever in position shown (**A₃**). Stop screw (**A₂**) can be adjusted to set specific travel speeds.

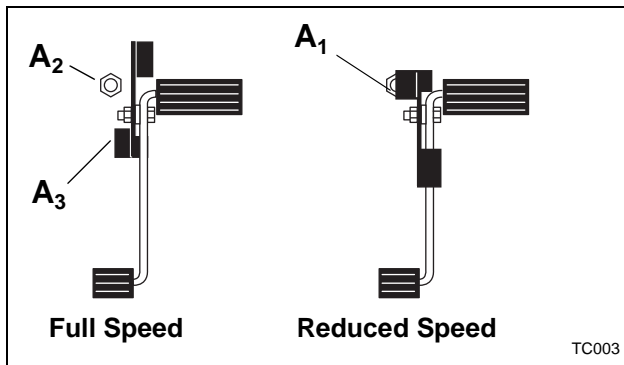


Figure 3B

B. **Traction Pedal**

Press front pedal (**B₁**) down for forward travel. Release pedal to slow tractor and stop.

Press rear pedal (**B₂**) down for reverse travel. Release pedal to slow tractor and stop. Allow tractor to come to a complete stop before reversing directions.

C. **Alarm**

The alarm sounds to alert the operator of high engine temperature. If alarm sounds, turn engine off and allow it to cool. Continued operation at high temperature can damage the engine.

D. **Turn Assist**

Reduces the turning radius of the machine for operation in close areas. Use the turn assist pedals for making tight turns around trees and other objects. To operate steering assist, press pedal down gradually until desired turning radius is achieved - left pedal (**D₂**) for left turns, right pedal (**D₁**) for right turns.

Note: Pressing pedal too hard may cause wheel to lock up. This may cause tire to tear or mark the turf.

E. **Hydraulic Fluid Gauge**

Indicates level of hydraulic fluid. Check level daily before starting. Add fluid whenever needle on gauge falls into 'red' zone on gauge. Fill only to "green" area on gauge, do not top off tank.

F. **Hydraulic Fluid Fill Cap**

Keep tank filled to full mark on gauge (**E**). Use clean hydraulic fluid and fill while machine is cool. Do not overfill.

G. **Parking Brake Lock/Release**

To lock parking brake hold both turn assist pedals down and press lock (**G₁**) until it engages. To disengage, press brake pedal release (**G₂**). Yellow light (**U**) comes on when ignition switch is in RUN or START position and parking brake is engaged.

H. **Tilt Steering**

Pull lever up to release steering column. Tilt column up or down to position desired. Release lever to lock steering column in place.



CAUTION: Never adjust steering while tractor is moving. Stop unit and set parking brake before adjusting.

I. **Seat Adjustment**

Pull left side lever out to adjust seat forward or backward.

J. **Fuel Gauge**

Indicates fuel level. Check level each day before starting.

K. **Fuel Cap**

Fill fuel tank with correct fuel type. To prevent spilling avoid topping off tank. Fill only to 'green' area on fuel gauge.

Diesel engines - fill fuel tank with No. 2 diesel fuel, minimum cetane rating of 45.

Gasoline engines - fill fuel tank with regular grade, unleaded gasoline, minimum octane rating of 85.

L. **Engine Throttle**

Controls engine speed. Run engine at full throttle during normal machine operation.

M. Power Take-Off (PTO)

Operates cutting decks and other attachments.

To engage power take-off, push locking tab (**M₁**) on switch forward and press switch to the ON position. Press switch OFF when not operating implements. Switch must be OFF to start engine.



N. Lift Lever

Lifts and lowers the cutting deck and other implements used with the tractor. The lever has three positions - lift, lower and float.

During normal operation the lever should remain in its "float" position. In this position the implement is free to follow the contour of the ground and will ensure an even height of cut.

CAUTION: The engine must be running to lift the implement but will lower the implement even with the engine off. To reduce the risk of injuries always lower implement to the ground before stopping or parking the machine.

O. Light Switch (option)

Controls operation of work lights. Lights operate only with the ignition switch in its RUN position.

P. 4 Wheel Drive (option)

Sets tractor into two or four wheel drive to improve traction. Four wheel drive operates in forward only.

Q. Engine Oil Light

The red light will come on if engine oil pressure drops below a safe level. Stop engine immediately, determine the cause and correct problem.

R. Hourmeter

Records engine operating hours. Use hour meter to schedule periodic maintenance.

S. Temperature Gauge

Indicates engine coolant temperature. Normal operating temperature should be between 160° - 230°F (71°-110°C). If temperature rises above 230° (110°F), alarm will sound.

T. Voltmeter

Monitors the condition of the electrical system. During normal operation, voltmeter needle should not be in the red area.

U. Parking Brake Light

Yellow light comes on when ignition switch is in the RUN or START position and parking brake is engaged.

V. Differential Lock (option)



Evenly distributes power to both the left and right wheels to improve traction. To apply lock, press switch down and hold. Release switch to disengage lock and return to normal operation.



CAUTION: When the differential lock is applied steering control will be affected.

W. Ignition Switch

The ignition switch has three positions. OFF-RUN-START. On machines equipped with diesel engines a fourth position is included to activate the glow plug circuit.

To prevent unauthorized operation, remove the ignition key when the tractor is not in use.

To start tractor, read and follow start-up procedures in Section 4.4.

X. Choke (gas engine only)

Pull choke out to start a cold engine. Push choke in as engine warms up.

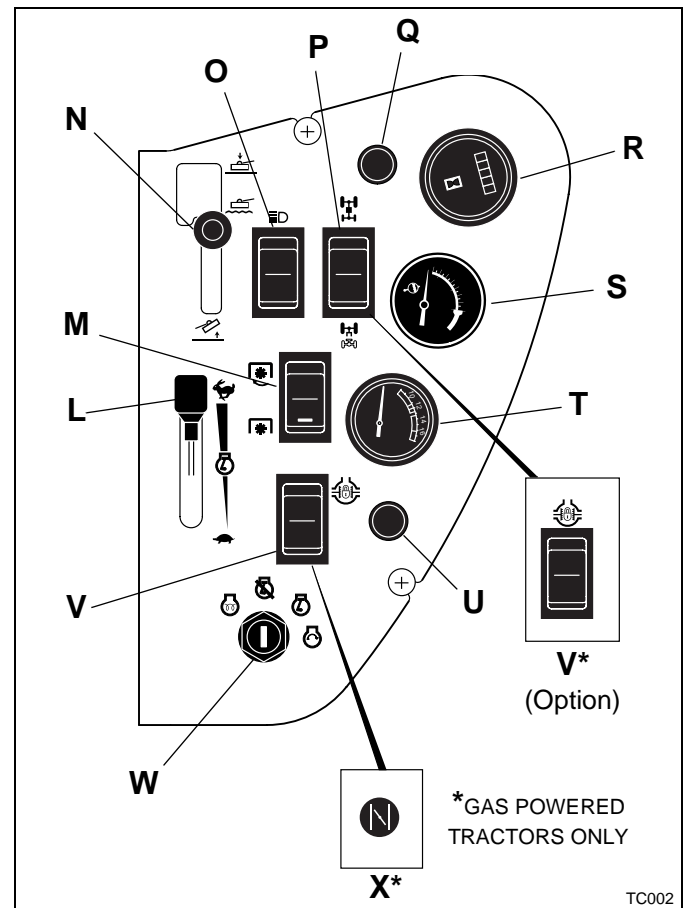


Figure 3C

4 OPERATION

4.1 DAILY INSPECTION



CAUTION: *The daily inspection should be performed only when the engine is off and all fluids are cold. Lower implements to the ground, engage parking brake, stop engine and remove ignition key.*

1. Perform a visual inspection of the entire unit, look for signs of wear, loose hardware, and missing or damaged components. Check for fuel and oil leaks around connections hoses and tubes.
2. Inspect cutting unit blades for damage. (**See Parts and Maintenance Manual**)
3. Check the fuel supply, radiator coolant level, crankcase oil and air cleaner indicator. All fluids must be at the full level mark with engine cold.
4. Check for loose connections, and damaged or worn electrical wiring and hydraulic lines.
5. Clean oil cooler screen and cooling fins on oil cooler and radiator to prevent overheating.
6. Make sure cutting unit is adjusted to the correct cutting height. (**See Parts & Maintenance Manual**)
7. Visually check tires for proper inflation.
8. Test the operator back-up system. (Section 4.2)

4.2 OPERATOR BACK-UP SYSTEM

1. The operator backup system prevents the engine from starting unless the parking brake is ENGAGED, the traction pedal is in NEUTRAL and the power take-off switch is OFF.

The system also stops the engine if the operator leaves the seat with the power take-off switch ON, traction pedal out of NEUTRAL, or parking brake DISENGAGED.



WARNING

Never operate equipment with the operator backup system disconnected or malfunctioning. Do not disconnect or bypass any switch.

2. Perform each of the following tests to insure the operator backup system is functioning properly. Stop the test and have the system inspected and repaired if any of the tests **fail** as listed below:

- the engine **does not** start in test 1;
- the engine **does** start during tests 2,3 or 4;
- the engine **continues** to run during tests 5 or 6.

3. Refer to the chart below for each test and follow the check (✓) marks across the chart. Shut engine off between each test.

Test 1: Represents normal starting procedure. The operator is seated, parking brake is engaged, the operator's feet are off the pedals, and the power take-off switch is OFF. The engine should start.

Test 2: The engine must not start if the power take-off switch is ON.

Test 3: The engine must not start if the parking brake is DISENGAGED.

Test 4: The engine must not start if the traction pedal is pressed.

Test 5: Start the engine in the normal manner then turn mower switch ON and lift your weight off the seat. ★

Test 6: Start the engine in the normal manner then DISENGAGE parking brake and lift your weight off the seat. ★

Operator's Back-up System Check

Test	Operator Seated		Parking Brake		Traction Pedal in Neutral		Power Take-off		Engine Starts	
	Yes	No	On	Off	Yes	No	Off	On	Yes	No
1	✓		✓		✓		✓		✓	
2	✓		✓		✓			✓		✓
3	✓			✓	✓		✓			✓
4	✓		✓			✓	✓			✓
5	✓	★	✓		✓			✓	★	
6	✓	★		✓	✓		✓		★	

★ Lift your weight off seat. The engine will stop.

4.3 OPERATING PROCEDURES

WARNING

A Rollover Protection Structure (ROPS) for this tractor is available as an optional accessory. Seat belts must be worn whenever a ROPS is installed on the tractor. Always keep seat belt snugly adjusted. **DO NOT** use seat belts on a tractor without a ROPS.

If a ROPS is installed and the tractor is overturning, hold onto the steering wheel. Do not attempt to jump out or leave the seat.



CAUTION: *To help prevent injury, always wear safety glasses, leather work shoes or boots, a hard hat, and ear protection. Long hair, loose clothing or jewelry may get tangled in moving parts.*

1. Under no circumstances should the engine be started without the operator seated on the tractor.
2. Do not operate tractor or attachments with loose, damaged or missing components. Whenever possible mow when grass is dry.
3. First mow in a test area to become thoroughly familiar with the operation of the tractor and control levers.
4. Study the area to determine the best and safest operating procedure. Consider the height of the grass, type of terrain, and condition of the surface. Each condition will require certain adjustments or precautions. Only use accessories and attachments approved by Textron Turf Care And Specialty Products.
5. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator is responsible for injuries inflicted to bystanders and/or damage to their property.
6. Use discretion when mowing near gravel areas (roadway, parking areas, cart paths, etc.). Stones discharged from the implement may cause serious injuries to bystanders and/or damage the equipment.
7. Always turn mower switch OFF to stop blades when not mowing.
8. Disengage the drive motor and raise the implements when crossing paths or roadways. Look out for traffic.
9. Stop and inspect the equipment for damage immediately after striking an obstruction or if the machine begins to vibrate abnormally. Have the equipment repaired before resuming operation.
10. Slow down and use extra care on hillsides. Read Section 4.9. Use caution when operating near drop offs, around holes and hidden hazards.
11. Look behind and down before backing up to be sure of a clear path. Use care when approaching blind corners, shrubs, trees or other objects that may obscure vision.
12. Never use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries. Rotating one blade can cause other blades to rotate.



CAUTION: *Before mowing, pick up all debris such as rocks, toys and wire which can be thrown by the machine. Enter a new area cautiously. Always operate at speeds that allow you to have complete control of the tractor.*

WARNING

Before you clean, adjust, or repair this equipment, always disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries

WARNING

Never raise cutting unit with the blades turning. Turn power take-off switch to off and wait until blades have stopped turning.

4 OPERATION

4.4 STARTING

IMPORTANT: Do not use starting assist fluids. Use of such fluids in the air intake system may be potentially explosive or cause a "Runaway" engine condition and could result in serious engine damage.

Tractors equipped with diesel engines utilize glow plugs to preheat the cylinders and improve cold engine starts.

1. Sit in operator's seat, make sure the power take-off switch (**M**) is OFF and the parking brake is engaged. Remove feet from pedals. Always use the seat belt when operating tractors equipped with a ROPS.
2. Set throttle lever (**L**) to half throttle.
3. Diesel engines - Turn ignition switch (**W**) to the glow plug position (⏻) Hold for about five seconds then release switch. The colder the temperature, the longer it will take to energize the plugs. This step is not necessary when starting a warm engine.

Gasoline engines - If engine is cold pull choke control (**X**) up to close choke.

Note: Do not activate glow plugs continuously for more than 20 seconds.

4. Turn ignition key to START (⏻). Release as soon as engine starts.

To prevent damage to the starter, **DO NOT** hold key in START position for more than 15 seconds. If engine does not start within 15 seconds, release key and wait 30 seconds for starter motor to cool before trying again.

5. After the engine starts, gradually push the choke control (**X**) in.
6. Allow engine to warm up before operating machine at high RPM.

Note: While cranking the engine the engine oil light (**Q**) will come on briefly. If the engine oil light remains on after engine has started, shut tractor off immediately and check engine oil level.

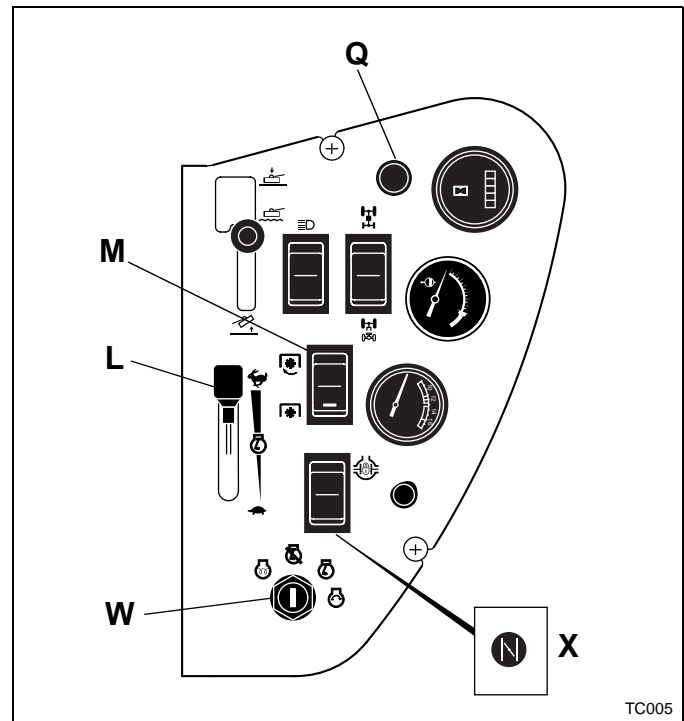


Figure 4A

4.5 STOPPING / PARKING

To stop:

Remove your foot from traction pedals. The tractor will automatically brake when the traction pedal returns to neutral.

Always lower implement and engage parking brake before leaving machine.

To park the tractor under normal conditions:

1. Disengage the power take-off (**M**) to stop cutting blades, raise the implement and move away from the area of operation.
2. Select a flat and level area to park.

- a. Release traction pedal to bring the tractor to a complete stop.
- b. Lower implement to the ground, reduce throttle (**L**) to idle and operate engine at no load for a minute.

3. Engage parking brake, stop the engine and remove the ignition key.

If an emergency arises and the tractor must be parked in the area of operation, follow the guidelines outlined by the grounds superintendent.

If the tractor is parked on an incline, chock or block the wheels.

4.6 TO DRIVE / TRANSPORT

Read and follow all safety notes contained in this manual when driving or transporting this tractor. When operating in reverse look behind you to ensure you have a clear path.

Important: *If this tractor is driven on public roads, it must comply with federal, state and local ordinances. Contact your local authorities for regulations and equipment requirements.*

Disengage PTO switch, and fully raise the cutting unit before transporting.

The operator has the option to transport in either 2-wheel drive (2WD) or 4-wheel drive (4WD).

4.7 MOWING

General Guidelines

WARNING

To prevent serious injury, make certain cutting unit, or other attachment, is fully lowered before engaging power take-off.

Never operate cutting unit, or other attachments, with damaged or missing components, or without a discharge deflector. Objects being discharged from the cutting unit can strike and seriously injure both bystanders and the operator.

Always keep discharge chute aimed downhill when mowing on a slope. Check and keep discharge deflector securely fastened.

1. Lower decks and engage power take-off. Set lift lever to 'float' so deck follows terrain and cuts evenly.
2. On SIDE DISCHARGE decks, mow so the uncut grass discharges over the previously cut grass. Discharging clippings over uncut grass creates a build-up of clippings that may prevent a uniform cut and impose an unnecessary load on the tractor and cutting deck.
3. Plan your cutting pattern to avoid unnecessary turns so you will mow as straight ahead as possible.
4. To enhance the appearance of the grass, reverse and change your cutting pattern each time you mow to eliminate matting, graining, and corrugation.
5. The correct operating speed depends on the height, density, type of grass and terrain being cut.
 - a. For extremely tall grass, first cut at a higher level and then at the desired height.
 - b. Always mow with engine at full throttle. Vary ground speed using the traction pedal.
 - c. Slow down when turning, operating in tight

areas, mowing on hillsides or over rough terrain, and when trimming.

To mow:

1. Lower cutting unit to the ground.

WARNING

To prevent serious injuries, keep hands, feet and clothing away from cutting unit when the blades are moving.

NEVER use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries.

To clear obstructions from mower, disengage mower switch, fully raise mower, engage parking brake, stop engine and remove key from ignition switch. Then remove the obstruction.

2. Select two or four wheel drive, if available.
3. Engage power take-off. Cutting blades will begin turning immediately.

IMPORTANT: *Never engage the power take-off to dislodge material that may be binding or plugging the implement. Engaging the power take-off under these conditions can damage both the implement and tractor.*
4. Slowly depress traction pedal.

4 OPERATION

4.8 USING DIFFERENTIAL LOCK



A differential lock is available as an optional feature and can be applied any time during operation to momentarily improve traction. When engaged the differential lock evenly distributes power to both the left and right wheels.

The lock is normally applied when one wheel has started to spin and additional traction is required. The lock

remains engaged as long as the switch is held down. Releasing the switch returns the tractor to normal drive.



CAUTION: *When the differential lock is applied steering control will be less responsive. Release lock and return to normal drive as soon as traction has been restored.*

4.9 HILLSIDE OPERATION

WARNING

To minimize the possibility of overturning, the safest method for operating on hills and terraces is to travel up and down the face of the slope (vertically), not across the face (horizontally). Avoid unnecessary turns, travel at reduced speeds, and stay alert for hidden hazards.



CAUTION: *Do not operate this tractor on slopes greater than 16°.*

The tractor has been designed for good traction and stability under normal mowing conditions; however, use caution when operating on slopes, especially when the grass is wet. Wet grass reduces traction and steering control.

1. Always mow with the engine at full throttle but reduce forward speed to maintain the proper cutting frequency.
2. To prevent tipping or loss of control do not start or stop suddenly or make sharp turns. Lower implement to the ground when descending slopes.
3. If the tractor tends to slide or the tires begin to "mark" the turf, angle tractor into a less steep grade until traction is regained or tire marking stops.
4. If tractor continues to slide or mark the turf, the grade is too steep for safe operation. Do not make another attempt to climb, disengage power take-off and back down slowly.
5. When descending a steep slope, always lower implements to the ground to reduce the risk of tractor overturning.

Correct tire pressure is essential for maximum traction.
See Parts & Maintenance Manual

4.10 TOWING / TRAILERING

If the tractor experiences problems and must be shut down and removed from the area, it should be loaded onto a trailer for transport. If a trailer is not available, the unit can be towed slowly short distances.

Use care when loading and unloading tractor. Fasten tractor to trailer to prevent tractor from rolling or shifting during transport.

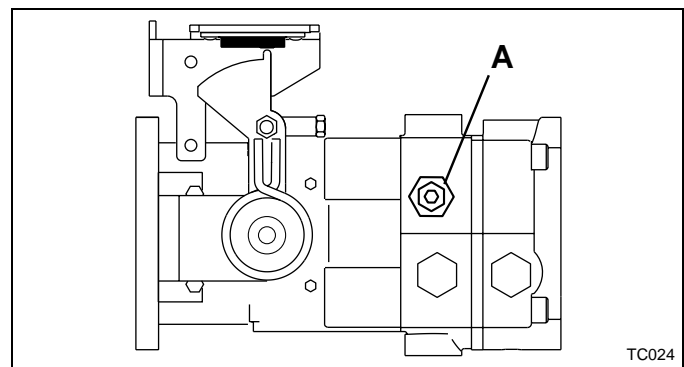
Before towing, open tow valve. The tow valve permits moving the tractor without starting the engine and prevents possible damage to hydraulic components.

The tow valve **(A)** is located on the bottom of the drive pump under the tractor. To open valve, loosen jam nut on valve stem and turn valve counterclockwise.

Before towing make sure attachment is raised. If it cannot be raised, remove it from the tractor.

Close valve completely and lock in place with jam nut after towing.

NOTE: *Do not exceed 2 MPH (3.2 KPH) while towing. Long distance towing is not recommended.*



TC024

Figure 4A

4.11 AUTOMATIC WEIGHT TRANSFER

The lift cylinder automatically compensates for the weight of the attachment and transfers weight back to the tractor. This improves traction to the front tires and provides better hill climbing ability.

This feature eliminates the need for weight transfer springs and other manually operated systems.

4.12 DAILY MAINTENANCE

Important: For more detailed maintenance information, adjustments and maintenance/lubrication charts, see the **Parts & Maintenance** manual.

1. Park the tractor on a flat and level surface. Fully lower the cutting units to the ground, engage parking brake, stop the engine and remove the key from ignition switch.
2. Grease and lubricate all points if required. To prevent fires, wash the cutting units and tractor after each use.
 - a. Do not use high pressure spray.
 - b. Do not spray water directly at the instrument panel, or any electrical components.
 - c. Do not spray water into cooling air intake, or the engine air intake.

Note: *Do not wash a hot or running engine. Use compressed air to clean the engine and radiator fins.*

3. Fill the tractor's fuel tank at the end of each operating day to within 1 in., (25 mm) below the filler neck.

Use clean fresh #2 diesel fuel. Minimum Cetane Rating 45.
4. Handle fuel with care - it is highly flammable. Use an approved container, the spout must fit inside the fuel filler neck. Avoid using cans and funnels to transfer fuel.
 - a. Never remove the fuel cap from the fuel tank, or add fuel, when the engine is running or while the engine is hot.
 - b. Do not smoke when handling fuel. Never fill or drain the tank indoors.
 - c. Never overfill or allow the tank to become empty. Do not spill fuel. Clean any spilled fuel immediately.
 - d. Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.

5. Store fuel according to local, state or federal ordinances and recommendations from your fuel supplier.

WARNING

To prevent serious injury from hot, high pressure oil, never use your hands to check for oil leaks, use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

6. Inspect hydraulic hoses and tubes daily. Look for wet hoses or oil spots and replace worn or damaged hoses and tubes before operating the machine.
7. Check the engine oil and hydraulic oil at the start of each day, before starting the engine. If the oil level is low, remove the oil filler cap and add oil as required. Do not overfill.

Limited Warranty

1. Warranty

Textron Turf Care And Specialty Products (TTCSP) warrants only to the original retail purchaser ("Warrantee") that this product shall be free from defects in material and workmanship for a period of two years or 1500 hours (whichever comes first) from the date of the first retail purchase. (90 days if used for rental purposes)

2. Items Not Warranted

TTCSP makes no warranties or representations with respect to repairs performed by anyone other than an Authorized TTCSP Dealer or with respect to, where applicable, engines*, batteries, tires, and ROPS, which are separately warranted by their respective manufacturers. Routine adjustments or normal wear and maintenance items are not covered by this warranty.

3. Conditions Which Will Void Warranty

- A) The speed of the unit is increased beyond factory specifications or the product is modified in any way which would adversely affect its safety or performance;
- B) The unit is not maintained or serviced in accordance with this publication;
- C) The unit is abused, or is not used in its intended manner.

4. Exclusive Remedy

The warrantee's sole and exclusive remedy for breach of this warranty or any defect or failure of the product, including any remedy provided by applicable federal or state law, statutory or common, is that TTCSP will, at its sole option, repair or replace the product or any defective parts and cover the cost of labor associated with such repair or replacement. Transportation costs are not covered by this warranty.

5. How to Obtain Warranty Service

If warranty repair is necessary, contact an Authorized TTCSP Dealer. All defective parts must be returned to the Dealer and become the property of TTCSP.

6. Disclaimer

- * *This warranty is made in lieu of all other warranties, implied or express, including any warranty of merchantability or fitness for a particular purpose.*
- * *TTCSP further disclaims any liability for incidental, direct or consequential damages, to include by not limited to, personal injury or property damage, arising from a breach of this warranty or any other defect or failure of the product to the extent allowed by law.*

No agent, employee or representative of TTCSP, or any other person, has the authority to bind TTCSP to any other affirmation, representation, or warranty concerning the goods sold under this Warranty.

For further information, call (262) 637-6711 or write:

Textron Turf Care And Specialty Products

**Warranty Department
1721 Packard Avenue
Racine, Wisconsin 53403-2564**

* *Kubota engines are warranted by TTCSP. All other engines are warranted by their respective manufacturers.*